

**Amendments to the Claims:**

The listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently Amended) Measuring arrangement for testing workpieces, having at least one optical fiber assigned to a workpiece, wherein each optical fiber is designed as a Bragg grating sensor, and wherein each optical fiber is arranged in a region of a surface of the workpiece, wherein each optical fiber designed as a Bragg grating sensor is integrated in the surface of the workpiece, and wherein recesses are introduced into the surface of the workpiece, said recesses each having a breadth and depth matched to a diameter of the at least one optical fibers fiber designed as Bragg grating sensors, and wherein said at least one optical fibers are fiber is respectively arranged in the recesses and bonded into respective ones of said recesses.

2. – 4.

5. (Currently Amended) The measuring arrangement according to claim 1 wherein a plurality of said at least one optical fibers designed as Bragg grating sensors are arranged in a geometrical configuration different from other ones of said at least one optical fiber ~~on a surface of the workpiece.~~

6. (Currently Amended) The measurement arrangement according to claim 5, wherein said plurality of optical fibers designed as Bragg grating sensors are arranged with curvatures which are different from said other ones of said at least one optical fiber ~~on the surface of the workpiece.~~

7. (Currently Amended) The measuring arrangement according to claim 5 wherein at least one optical fiber designed as a Bragg grating sensor is arranged without curvature in the form of a straight line in the region on the surface of the workpiece.

8. (Currently Amended) The measuring arrangement according to claim 5, wherein at least one optical fiber designed as a Bragg grating sensor is arranged in the form of an angular straight line in the region on the surface of the workpiece in such a way that a first section of the fiber is angled off from a second section thereof.

9. (Previously Presented) The measuring arrangement according to claim 5, wherein at least one optical fiber designed as a Bragg grating sensor is arranged on the surface of the workpiece in such a way that the at least one fiber has at least one of a curved section of approximately 90 degree and a curved section of approximately 180 degree. with neighbouring sections of the

corresponding optical running approximately parallel to one another in the curved section of approximately 180degree..

10. (Previously Presented) The measuring arrangement according to claim 1, wherein the workpiece is designed as a dynamically loaded component.

11. (Previously Presented) The measuring arrangement according to claim 1 wherein the arrangement is used to determine the properties of a dynamically loaded component.

12. (Currently Amended) Method for metrological instrumentation of workpieces, comprising:

arranging at least one optical fiber designed as a Bragg grating sensor in the a region of a surface of the workpiece; and

integrating each of said at least one optical fiber designed as a Bragg grating sensor in the surface of the workpiece with, recesses being introduced into the surface of the workpiece whose width and depth matched to the diameter of said at least one the optical fibers fiber designed as Bragg grating sensors, wherein an optical fiber is arranged in the recesses wherein said at least one optical fiber is respectively arranged in the recesses and bonded into respective ones of said recesses.

13. – 14. (Cancelled)

15. (Previously Presented) The method according to claim 12, wherein a plurality of said at least one optical fiber designed as Bragg grating sensors are arranged in a different geometrical configuration.

16. (Cancelled)

17. (Previously Presented) The measuring arrangement according to claim 10, wherein the workpiece is designed as a blade of a turbine or housing of a turbine.

18. (Cancelled)

19. (Previously Presented) The method according to claim 15, wherein said different geometrical configuration is a curvature.

20. (Previously Presented) The measuring arrangement according to claim 11, wherein said dynamically loaded component is a blade of a turbine or a housing of a turbine.